



# California Regional Water Quality Control Board San Diego Region



Linda S. Adams  
Secretary for  
Environmental  
Protection

Over 50 Years Serving San Diego, Orange, and Riverside Counties  
Recipient of the 2004 Environmental Award for Outstanding Achievement from USEPA

Arnold  
Schwarzenegger  
Governor

9174 Sky Park Court, Suite 100, San Diego, California 92123-4340  
(858) 467-2952 • Fax (858) 571-6972  
<http://www.waterboards.ca.gov/sandiego>

November 17, 2009

**Certified Mail – Return Receipt Requested**  
Article Number: 7009 1410 0002 2347 5012

**In reply refer to:**  
**739687:jrobertus**

Benjamin Guerrero  
Senior Planner  
Development Services Department  
City of Chula Vista  
276 Fourth Avenue  
Chula Vista, CA 91910

Dear Mr. Guerrero:

**SUBJECT: Action on Request for Clean Water Act Section 401 Water Quality Certification for North Broadway Basin CIP (STM-354) Project, 09C-046**

Enclosed find Clean Water Act Section 401 Water Quality Certification (Certification) with acknowledgment of enrollment under State Water Resources Control Board Order No. 2003-017 DWQ for Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have received State Water Quality Certification for the North Broadway Basin CIP (STM-354) Project. A description of the project and location can be found in the project information sheet and on location and site maps compiled by the California Regional Water Quality Control Board, San Diego Region (Regional Board), which are included as Attachments 1 through 5.

Any petition for reconsideration of this Certification must be filed with the State Water Resources Control Board within 30 days of certification action (23 CCR § 3867). If no petition is timely received, it will be assumed that you have accepted and will comply with all the conditions of this Certification.

Failure to comply with all conditions of this Certification may subject you to enforcement actions by the Regional Board including administrative enforcement orders requiring you to cease and desist from violations, or to clean up waste and abate existing or threatened conditions of pollution or nuisance; administrative civil liability in amounts of up to \$10,000 per day per violation; referral to the State Attorney General for injunctive relief; and, referral to the District Attorney for criminal prosecution.

***California Environmental Protection Agency***

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at <http://www.swrcb.ca.gov>.*

Recycled Paper



800-950-5231

Benjamin Guerrero  
City of Chula Vista  
401 Certification 09C-046

- 2 -

November 17, 2009

In the subject line of any response, please include the requested "In reply refer to:" information located in the heading of this letter. If you have any questions regarding this notification, please contact Ms. Jody Ebsen directly at 858-636-3146 or by email via [jebsen@waterboards.ca.gov](mailto:jebsen@waterboards.ca.gov).

Respectfully,

  
JOHN H. ROBERTUS  
Executive Officer

Enclosure:

Clean Water Act Section 401 Water Quality Certification No. 09C-046 for North  
Broadway Basin CIP (STM-354) Project, with 5 attachments

cc: Refer to Attachment 2 of Certification for Distribution List.

Tech Staff Info & Use	
File No.	09C-046
WDID	9000001937
Reg. Measure ID	367275
Place ID	739687
Party ID	10983
Person ID	369627



# California Regional Water Quality Control Board

## San Diego Region



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Action on Request for  
Clean Water Act Section 401 Water Quality Certification  
and Waste Discharge Requirements  
for Discharge of Dredged and/or Fill Materials

**PROJECT:** North Broadway Basin CIP (STM-354),  
Certification 09C-046, WDID: 900001937

**APPLICANT:** City of Chula Vista  
Attn: Benjamin Guerrero  
276 Fourth Avenue  
Chula Vista, CA 91910

CIWQS Reg. Meas. ID: 367275 Place ID: 739687 Party ID: 10983
---

**ACTION:**

<input checked="" type="checkbox"/> Order for Low Impact Certification	<input type="checkbox"/> Order for Denial of Certification
<input type="checkbox"/> Order for Technically-conditioned Certification	<input type="checkbox"/> Waiver of Waste Discharge Requirements
<input checked="" type="checkbox"/> Enrollment in SWRCB GWDR Order No. 2003-017 DWQ	<input type="checkbox"/> Enrollment in Isolated Waters Order No. 2004-004 DWQ

**PROJECT DESCRIPTION:**

The project is a full street reconstruction including the removal and replacement of curb, gutter, street section, and pedestrian ramps in the City of Chula Vista. Approximately 2000 linear feet of storm drain pipes, clean-outs and curb-inlet structures with a new biofilter system will be installed. In order to meet design criteria, the existing head wall, 30" RCO pipe, and energy dissipater must be removed and a new 48" RCP pipe, headwall, and riprap energy dissipater will be installed.

**STANDARD CONDITIONS:**

The following three standard conditions apply to all Certification actions, except as noted under Condition 3 for denials (Action 3).

**California Environmental Protection Agency**

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at <http://www.swrcb.ca.gov>

Recycled Paper



1. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).
2. This Certification action is not intended and must not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
3. The validity of any non-denial Certification action (Actions 1 and 2) must be conditioned upon total payment of the full fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

**ADDITIONAL CONDITIONS:**

In addition to the three standard conditions, City of Chula Vista must satisfy the following:

**A. GENERAL CONDITIONS:**

1. This certification expires five years from the date of issuance.
2. City of Chula Vista must, at all times, fully comply with the engineering plans, specifications and technical reports submitted to the California Regional Water Quality Control Board, San Diego Region (Regional Board), to support this 401 Water Quality Certification (Certification) and all subsequent submittals required as part of this Certification and as described in Attachment 1. The conditions within this Certification must supersede conflicting provisions within such plans submitted prior to the Certification action. Any modifications thereto, would require notification to the Regional Board and reevaluation for individual Waste Discharge Requirements and/or Certification amendment.
3. During construction, City of Chula Vista must maintain a copy of this Certification at the project site so as to be available at all times to site personnel and agencies.
4. City of Chula Vista must permit the Regional Board or its authorized representative at all times, upon presentation of credentials:
  - a. Entry onto project premises, including all areas on which wetland fill or wetland mitigation is located or in which records are kept.

- b. Access to copy any records required to be kept under the terms and conditions of this Certification.
  - c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Certification.
  - d. Sampling of any discharge or surface water covered by this Order.
5. City of Chula Vista must notify the Regional Board within 24 hours of any unauthorized discharge, including hazardous or toxic materials, to waters of the U.S. and/or State; measures that were implemented to stop and contain the discharge; measures implemented to clean-up the discharge; the volume and type of materials discharged and recovered; and additional best management practice (BMPs) or other measures that will be implemented to prevent future discharges.
6. City of Chula Vista must, at all times, maintain appropriate types and sufficient quantities of materials onsite to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the U.S. and/or State.
7. This Certification is not transferable in its entirety or in part to any person except after notice to the Executive Officer of the Regional Board in accordance with the following terms.
  - a. Transfer of Property Ownership: City of Chula Vista must notify the Regional Board of any change in ownership of the project area. Notification of change in ownership must include, but not be limited to, a statement that City of Chula Vista has provided the purchaser with a copy of the Section 401 Water Quality Certification and that the purchaser understands and accepts the certification requirements and the obligation to implement them or be subject to liability for failure to do so; the seller and purchaser must sign and date the notification and provide such notification to the Executive officer of the Regional Board within **10 days** of the transfer of ownership.
  - b. Transfer of Mitigation Responsibility: Any notification of transfer of responsibilities to satisfy the mitigation requirements set forth in City of Chula Vista shall include a signed statement from an authorized representative of the new party (transferee) demonstrating acceptance and understanding of the responsibility to comply with and fully satisfy the mitigation conditions and agreement that failure to comply with the mitigation conditions and associated requirements may subject the transferee to enforcement by the Regional Board under Water Code section 13385, subdivision (a). Notification of transfer of responsibilities meeting the above conditions must be provided to the Regional Board within **10 days** of the transfer date.

8. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation must be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.
9. In response to a suspected violation of any condition of this Certification, the Regional Board may require the holder of any permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the Regional Board deems appropriate, provided that the burden, including costs, of the reports must bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
10. In response to any violation of the conditions of this Certification, the Regional Board may add to or modify the conditions of this Certification as appropriate to ensure compliance.

**B. PROJECT CONDITIONS:**

1. Prior to the start of the project, and annually thereafter, City of Chula Vista must educate all personnel on the requirements in this Certification, pollution prevention measures, spill response, and BMP implementation and maintenance.
2. City of Chula Vista must comply with the requirements of State Water Resources Control Board Water Quality Order No. 2003-0017-DWQ, Statewide General Waste Discharge Requirements for discharges of dredged or fill material that have received State Water Quality Certification. These General Waste Discharge Requirements are accessible at: [http://www.waterboards.ca.gov/cwa401/docs/generalorders/gowdr401regulated\\_projects.pdf](http://www.waterboards.ca.gov/cwa401/docs/generalorders/gowdr401regulated_projects.pdf).
3. City of Chula Vista must notify the Regional Board in writing at least 5 days prior to the actual commencement of dredge, fill, and discharge activities.
4. City of Chula Vista must comply with the requirements of State Water Resources Control Board Water Quality Order No. 99-08-DWQ, the NPDES General Permit for Storm Water Discharges Associated with Construction Activity.
5. The treatment, storage, and disposal of wastewater during the life of the project must be done in accordance with waste discharge requirements established by the Regional Board pursuant to CWC § 13260.

6. Discharges of concentrated flow during construction or after completion must not cause downstream erosion or damage to properties or stream habitat.
7. Water containing mud, silt, or other pollutants from equipment washing or other activities, must not be discharged to waters of the United States and/or the State or placed in locations that may be subjected to storm flows. Pollutants discharged to areas within a stream diversion area must be removed at the end of each work day or sooner if rain is predicted.
8. All surface waters, including ponded waters, must be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and/or any other activity which may result in a discharge to the receiving water. Diversion activities must not result in the degradation of beneficial uses or exceedance of water quality objectives of the receiving waters. Any temporary dam or other artificial obstruction constructed must only be built from materials such as clean gravel which will cause little or no siltation. Normal flows must be restored to the affected stream immediately upon completion of work at that location.
9. Substances hazardous to aquatic life including, but not limited to, petroleum products, raw cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs must be implemented to prevent such discharges during each project activity involving hazardous materials.

#### **C. POST CONSTRUCTION STORM WATER MANAGEMENT**

1. All storm drain inlet structures within the project boundaries must be stamped and/or stenciled (or equivalent) with appropriate language prohibiting non-storm water discharges.
2. In addition to the BMPs described in the *Water Quality Technical Report for North Broadway Basin Between C Street and D Street in the City of Chula Vista, California*, City of Chula Vista, May 13, 2008, and referenced in Appendix I in support of the application, the structural BMPs must be sized to comply with the following numeric sizing criteria:
  - a. Volume  
Volume-based BMPs must be designed to mitigate (infiltrate, filter, or treat) either:
    - i. The volume of runoff produced from a 24-hour 85<sup>th</sup> percentile storm event, as determined from the local historical rainfall record (0.6 inch approximate average for the San Diego County area); or
    - ii. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in

pollutant loads and flows as achieved by mitigation of the 85<sup>th</sup> percentile 24-hour runoff event; or

b. Flow

Flow-based BMPs must be designed to mitigate (infiltrate, filter, or treat) either:

- i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour; or
  - ii. The maximum flow rate of runoff produced by the 85<sup>th</sup> percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
  - iii. The maximum flow rate of runoff, as determined from the same reduction in pollutant loads and flows as achieved by mitigation of the 85<sup>th</sup> percentile hourly rainfall intensity multiplied by a factor of two.
3. All post-construction structural BMPs, including, but not limited to, Stormfilter units must be regularly inspected and maintained for the life of the project per manufacturers' specifications and the Storm Water Management Plan prepared for the project (*Water Quality Technical Report for North Broadway Basin Between C Street and D Street in the City of Chula Vista, California, City of Chula Vista, May 13, 2008*).
  4. City of Chula Vista must install and maintain in perpetuity storm drain inlet media filters on all storm drain inlets on the project site and on all roads that are required to be improved as part of the project, including, but not limited to, along Broadway, from D Street to approximately 200 feet north of C Street.
  5. The Regional Board may be requested to review planned BMP implementation that clearly demonstrate to meet or exceed the performance standards herein. Such requests must be made 30 days prior to the planned BMP implementation.
  6. Treatment BMPs will be inspected monthly and after every storm event exceeding 0.5 inches of precipitation.
  7. Preventive and corrective maintenance procedures will be performed as outlined in the *Water Quality Technical Report for North Broadway Basin Between C Street and D Street in the City of Chula Vista, California, City of Chula Vista, May 13, 2008*.
  8. Records must be kept regarding inspections and maintenance in order to assess the performance of the systems and determine whether adaptations are necessary to protect receiving waters.

9. City of Chula Vista assumes responsibility for the inspection and maintenance of all post-construction structural BMPs until such responsibility is legally transferred to another entity.
10. At the time maintenance responsibility for post-construction BMPs is legally transferred, City of Chula Vista must submit to the Regional Board a copy of such documentation.
11. At the time maintenance responsibility for post-construction BMPs is legally transferred, City of Chula Vista must provide the transferee with a copy of a long-term BMP maintenance plan that complies with manufacturer specifications.

**D. POST-CONSTRUCTION BEST MANAGEMENT PRACTICES PHOTO DOCUMENTATION PROCEDURE**

1. City of Chula Vista must conduct photo documentation of implemented post-construction BMPs. Photo-documentation must be modeled after the State Water Resources Control Board Standard Operating Procedure 4.2.1.4: Stream Photo Documentation Procedure, included as Attachment 5. In addition, photo documentation must include Global Positioning System (GPS) coordinates for each of the photo points referenced. City of Chula Vista must submit this information in a photo documentation report to the Regional Board with the final project report. The report must include a compact disc that contains digital files of all the photos (jpeg file type or similar).

**E. REPORTING:**

1. All information requested in this Certification is pursuant to California Water Code (CWC) section 13267. Civil liability may be administratively imposed by the Regional Board for failure to furnish requested information pursuant to CWC section 13268.
2. All reports and information submitted to the Regional Board must be submitted in both hardcopy and electronic format. The preferred electronic format for each report submission is one file in PDF format that is also Optical Character Recognition (OCR) capable.
3. City of Chula Vista must submit a report to the Regional Board within 30 days of completion of the project. The report should include as-built drawings no bigger than 11" x 17" and photos of the completed project.
4. All applications, reports, or information submitted to the Regional Board must be signed and certified as follows:



6. Required Reports: The following list summarizes the reports required per the conditions of this Certification to be submitted to the Regional Board.

Report Topic	Certification Condition	Due Date(s)
Notification	A.7	As necessary
Notification	B.3	In writing at least 5 days prior to the actual commencement of dredge, fill, and discharge activities
Photo-documentation	D.1	With final report
Final Report	E.3	Within 30 days of project completion

**PUBLIC NOTIFICATION OF PROJECT APPLICATION:**

On June 22, 2009, receipt of the project application was posted on the Regional Board web site to serve as appropriate notification to the public.

**REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:**

Jody Ebsen  
 California Regional Water Quality Control Board, San Diego Region  
 9174 Sky Park Court, Suite 100  
 San Diego, CA 92123  
 858-636-3146  
 jebesen@waterboards.ca.gov

**WATER QUALITY CERTIFICATION:**

I hereby certify that the proposed discharge from North Broadway Basin CIP (STM-354), 09C-046 will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Board Order No. 2003-0017-DWQ, "Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have Received State Water Quality Certification (General WDRs)," which requires compliance with all conditions of this Water Quality Certification. Please note that enrollment under Order No. 2003-017 DWQ is conditional and, should new information come to our attention that indicates a water quality problem, the Regional Board may issue waste discharge requirements at that time.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicants' project description and/or on the attached Project Information Sheet, and (b) on compliance with all applicable requirements of the Regional Board's Water Quality Control Plan (Basin Plan).



JOHN H. ROBERTUS  
Executive Officer  
Regional Water Quality Control Board

17 November 2009  
Date

- Attachments:
1. Project Information
  2. Distribution List
  3. Location Map
  4. Site Map
  5. Stream Photodocumentation Procedure

**ATTACHMENT 1  
PROJECT INFORMATION**

Applicant: City of Chula Vista  
 Attn: Benjamin Guerrero  
 276 Fourth Avenue  
 Chula Vista, CA 91910  
 Telephone: 619-691-5272  
 Email: [BGuerrero@ci.chula-vista.ca.us](mailto:BGuerrero@ci.chula-vista.ca.us)

Applicant Representatives: ECORP Consulting, Inc.  
 Attention: Margaret Bornyasz  
 3914 Murphy Canyon Road, Ste A163,  
 San Diego, CA 92123  
 Telephone: 858-279-4040  
 Facsimile: 858-279-4043  
 Email: [mbornyasz@ecorpconsulting.com](mailto:mbornyasz@ecorpconsulting.com)

Project Name: North Broadway Basin CIP (STM-354)

Project Location: Latitude: 32.6485183 N Longitude: 117.09615 W

Type of Project: Street and storm drain system improvements

Need for Project: To alleviate seasonal flooding

Project Description: The project is a full street reconstruction including the removal and replacement of curb, gutter, street section, and pedestrian ramps in the City of Chula Vista. Approximately 2000 linear feet of storm drain pipes, clean-outs and curb-inlet structures with a new biofilter system will be installed. In order to meet design criteria, the existing head wall, 30" RCO pipe, and energy dissipater must be removed and a new 48" RCP pipe, headwall, and riprap energy dissipater will be installed.

Federal Agency/Permit: U.S. Army Corps of Engineers §404, NWP 43, Therese O'Rourke

California Environmental Quality Act (CEQA) Compliance: Notice of Determination, Mitigated Negative Declaration, North Broadway Drainage Basin Facility Improvement/Rehabilitation (STM 354), April 24, 2009, City of Chula Vista

Receiving Water: Sweetwater Hydrologic Unit, Lower Sweetwater Hydrologic Area, La Nacion Hydrologic Sub-Area (909.12)

Affected Waters of the United States: Permanent: 0.000213 acres of streambed

Dredge Volume: N/A

Related Projects  
Implemented/to be  
Implemented by the  
Applicant(s):

None

Compensatory  
Mitigation:

The permanent impacts are not considered a significant impact  
therefore no mitigation is proposed.

Best Management  
Practices (BMPs):

Post-construction BMPs include a new Stormfilter system,  
*Water Quality Technical Report for North Broadway Basin Between  
C Street and D Street in the City of Chula Vista, California, City of  
Chula Vista, May 13, 2008*

Public Notice:

On June 22, 2009, receipt of the project application was posted on  
the Regional Board web site to serve as appropriate notification to  
the public.

Fees:

Total Due: \$640.00  
Total Paid: \$640.00 (check No. 434790)

CIWQS:

Regulatory Measure ID: 367275  
Place ID: 739687  
Party ID: 10983

**ATTACHMENT 2  
DISTRIBUTION LIST**

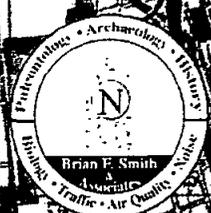
Ms. Therese O'Rourke  
U.S. Army Corps of Engineers, Regulatory Branch  
San Diego Field Office  
6010 Hidden Valley Rd, Ste 105  
Carlsbad, California 92011

Cc via email:

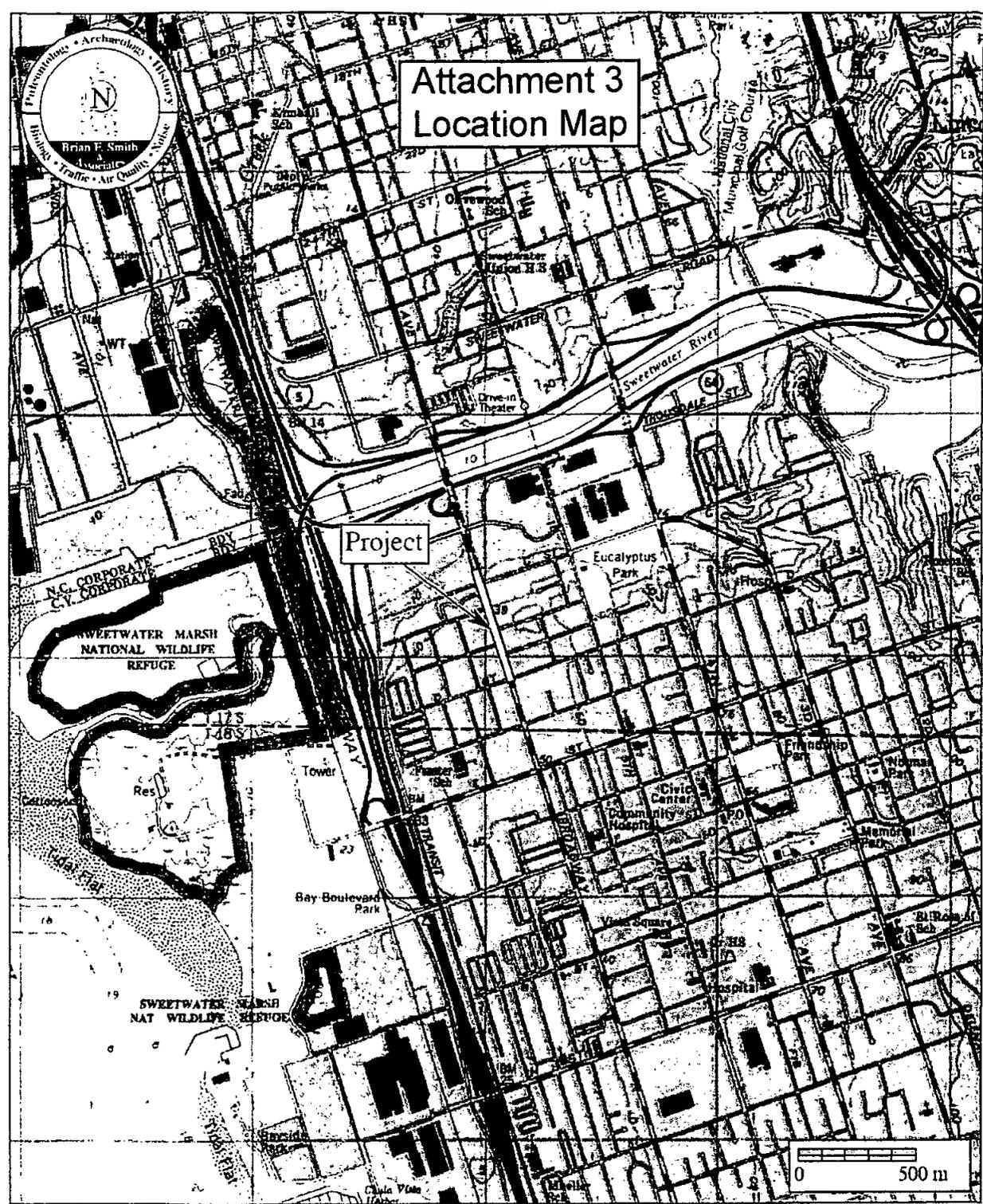
State Water Resources Control Board, Division of Water Quality  
401 Water Quality Certification and Wetlands Unit  
[Stateboard401@waterboards.ca.gov](mailto:Stateboard401@waterboards.ca.gov)

U.S. Environmental Protection Agency, Region 9  
Wetlands Regulatory Office  
[R9-WTR8-Mailbox@epa.gov](mailto:R9-WTR8-Mailbox@epa.gov)

David Zoutendyk  
U.S. Department of the Interior  
Fish and Wildlife Service  
[david\\_zoutendyk@fws.gov](mailto:david_zoutendyk@fws.gov)



# Attachment 3 Location Map



## Attachment 2

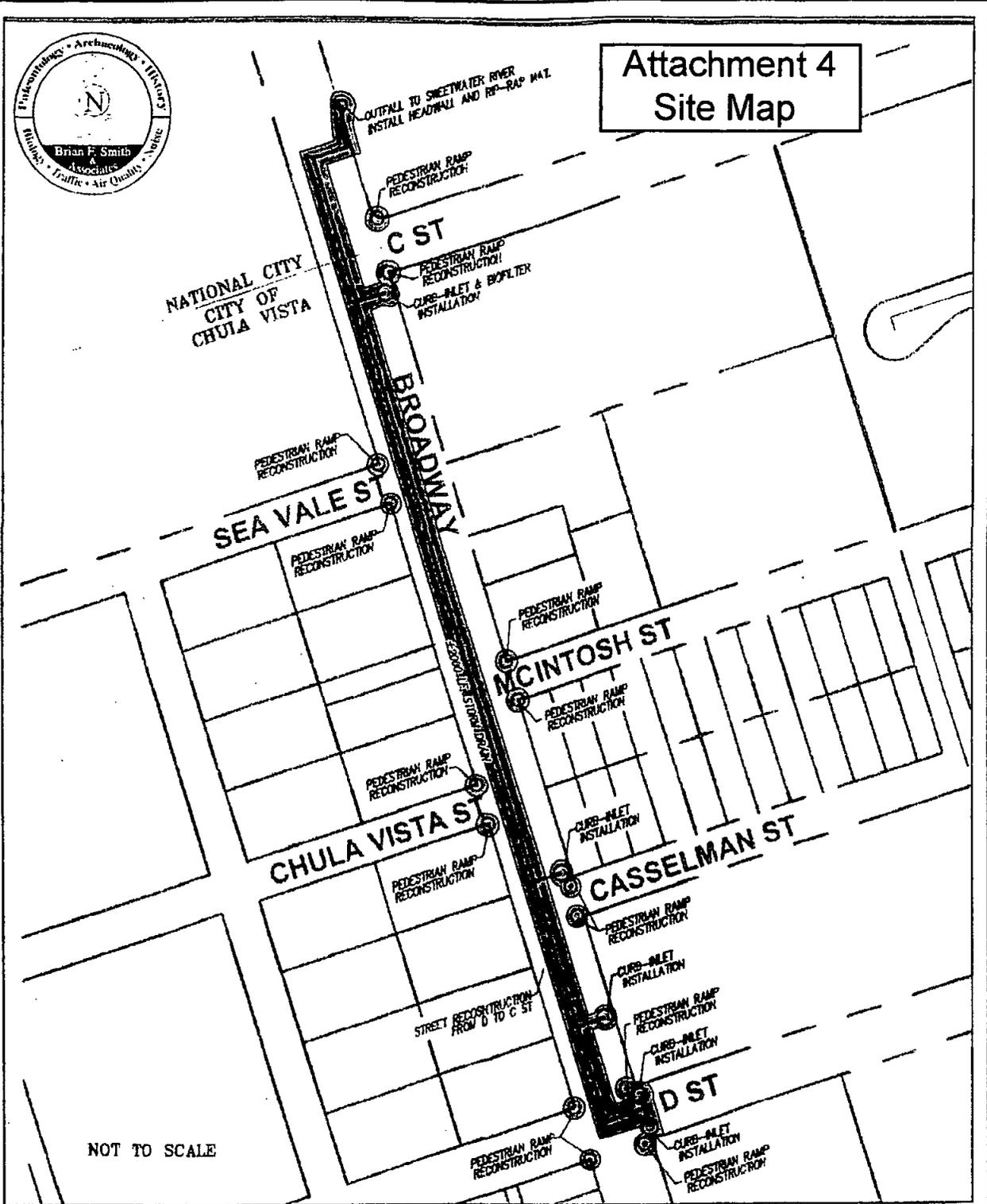
### Project Location Map

The North Broadway Basin Project

USGS National City Quadrangle (7.5 minute series)



# Attachment 4 Site Map



NOT TO SCALE

## Attachment 3

### Project Alignment

The North Broadway Basin Project

## ATTACHMENT 5 STREAM PHOTO DOCUMENTATION PROCEDURES

### Standard Operating Procedure (SOP)

#### Stream Photo Documentation Procedure

(CARCD 2001, Written by TAC Visual Assessments work group)

#### Introduction:

Photographs provide a qualitative, and potentially semi-quantitative, record of conditions in a watershed or on a water body. Photographs can be used to document general conditions on a reach of a stream during a stream walk, pollution events or other impacts, assess resource conditions over time, or can be used to document temporal progress for restoration efforts or other projects designed to benefit water quality. Photographic technology is available to anyone and it does not require a large degree of training or expensive equipment. Photos can be used in reports, presentations, or uploaded onto a computer website or GIS program. This approach is useful in providing a visual portrait of water resources to those who may never have the opportunity to actually visit a monitoring site.

#### Equipment:

Use the same camera to the extent possible for each photo throughout the duration of the project. Either 35 mm color or digital color cameras are recommended, accompanied by a telephoto lens. If you must change cameras during the program, replace the original camera with a similar one comparable in terms of media (digital vs. 35 mm) and other characteristics. A complete equipment list is suggested as follows:

#### Required:

- Camera and backup camera
- Folder with copies of previous photos (do not carry original photos in the field)
- Topographic and/or road map
- Aerial photos if available
- Compass
- Timepiece
- Extra film or digital disk capacity (whichever is applicable)
- Extra batteries for camera (if applicable)
- Photo-log data sheets or, alternatively, a bound notebook dedicated to the project
- Yellow photo sign form and black marker, or, alternatively, a small black board and chalk

Optional:

- GPS unit
- Stadia rod (for scale on landscape shots)
- Ruler (for scale on close up views of streams and vegetation)
- Steel fence posts for dedicating fixed photo points in the absence of available fixed landmarks

**How to Access Aerial Photographs:**

Aerial Photos can be obtained from the following federal agencies:

USGS Earth Science Information Center  
507 National Center  
12201 Sunrise Valley Drive  
Reston, VA 22092  
800-USA-MAPS

USDA Consolidated Farm Service Agencies  
Aerial Photography Field Office  
222 West 2300 South  
P.O. Box 30010  
Salt Lake City, UT 84103-0010  
801-524-5856

Cartographic and Architectural Branch  
National Archives and Records Administration  
8601 Adelphi Road  
College park, MD 20740-6001  
301-713-7040

**Roles and Duties of Team:**

The team should be comprised of a minimum of two people, and preferably three people for restoration or other water quality improvement projects, as follows:

1. Primary Photographer
2. Subject, target for centering the photo and providing scale
3. Person responsible for determining geographic position and holding the photo sign forms or blackboard.

One of these people is also responsible for taking field notes to describe and record photos and photo points.

**Safety Concerns:**

Persons involved in photo monitoring should **ALWAYS** put safety first. For safety reasons, always have at least two 2 volunteers for the survey. Make sure that the area(s) you are surveying either are accessible to the public or that you have obtained permission from the landowner prior to the survey.

Some safety concerns that may be encountered during the survey include, but are not limited to:

- Inclement weather
- Flood conditions, fast flowing water, or very cold water
- Poisonous plants (e.g.: poison oak)
- Dangerous insects and animals (e.g.: bees, rattlesnakes, range animals such as cattle, etc.)
- Harmful or hazardous trash (e.g.: broken glass, hypodermic needles, human feces)

We recommend that the volunteer coordinator or leader discuss the potential hazards with all volunteers prior to any fieldwork.

**General Instructions:**

From the inception of any photo documentation project until it is completed, always take each photo from the same position (photo point), and at the same bearing and vertical angle at that photo point. Photo point positions should be thoroughly documented, including photographs taken of the photo point. Refer to copies of previous photos when arriving at the photo point. Try to maintain a level (horizontal) camera view unless the terrain is sloped. (If the photo can not be horizontal due to the slope, then record the angle for that photo.) When photo points are first being selected, consider the type of project (meadow or stream restoration, vegetation management for fire control, ambient or event monitoring as part of a stream walk, etc.) and refer to the guidance listed on *Suggestions for Photo Points by Type of Project*.

When taking photographs, try to include landscape features that are unlikely to change over several years (buildings, other structures, and landscape features such as peaks, rock outcrops, large trees, etc.) so that repeat photos will be easy to position. Lighting is, of course, a key ingredient so give consideration to the angle of light, cloud cover, background, shadows, and contrasts. Close view photographs taken from the north (i.e., facing south) will minimize shadows. Medium and long view photos are best shot with the sun at the photographer's back. Some artistic expression is encouraged as some photos may be used on websites and in slide shows (early morning and late evening shots may be useful for this purpose). Seasonal changes can be used to advantage as foliage,

stream flow, cloud cover, and site access fluctuate. It is often important to include a ruler, stadia rod, person, farm animal, or automobile in photos to convey the scale of the image. Of particular concern is the angle from which the photo is taken. Oftentimes an overhead or elevated shot from a bridge, cliff, peak, tree, etc. will be instrumental in conveying the full dimensions of the project. Of most importance overall, however, is being aware of the goal(s) of the project and capturing images that clearly demonstrate progress towards achieving those goal(s). Again, reference to *Suggestions for Photo Points by Type of Project* may be helpful.

If possible, try to include a black board or yellow photo sign in the view, marked at a minimum with the location, subject, time and date of the photograph. A blank photo sign form is included in this document.

### **Recording Information:**

Use a systematic method of recording information about each project, photo point, and photo. The following information should be entered on the photo-log forms (blank form included in this document) or in a dedicated notebook:

- Project or group name, and contract number (if applicable, e.g., for funded restoration projects)
- General location (stream, beach, city, etc.), and short narrative description of project's habitat type, goals, etc.
- Photographer and other team members
- Photo number
- Date
- Time (for each photograph)
- Photo point information, including:
  - Name or other unique identifier (abbreviated name and/or ID number)
  - Narrative description of location including proximity to and direction from notable landscape features like roads, fence lines, creeks, rock outcrops, large trees, buildings, previous photo points, etc. – sufficient for future photographers who have never visited the project to locate the photo point
  - Latitude, longitude, and altitude from map or GPS unit
- Magnetic compass bearing from the photo point to the subject
- Specific information about the subject of the photo
- Optional additional information: a true compass bearing (corrected for declination) from photo point to subject, time of sunrise and sunset (check newspaper or almanac), and cloud cover.

For ambient monitoring, the stream and shore walk form should be attached or referenced in the photo-log.

When monitoring the implementation of restoration, fuel reduction, or Best Management Practices (BMP) projects, include or attach to the photo-log a narrative description of observable progress in achieving the goals of the project. Provide supplementary information along with the photo, such as noticeable changes in habitat, wildlife, and water quality and quantity.

Archive all photos, along with the associated photo-log information, in a protected environment.

### **The Photo Point: Establishing Position of Photographer:**

1. Have available a variety of methods for establishing position: maps, aerial photos, GPS, permanent markers and landmarks, etc. If the primary method fails (e.g., a GPS or lost marker post) then have an alternate method (map, aerial photo, copy of an original photograph of the photo-point, etc).
2. Select an existing structure or landmark (mailbox, telephone pole, benchmark, large rock, etc.), identify its latitude and longitude, and choose (and record for future use) the permanent position of the photographer relative to that landmark. Alternatively, choose the procedure described in *Monitoring California's Annual Rangeland Vegetation* (UC/DANR Leaflet 21486, Dec. 1990). This procedure involves placing a permanently marked steel fence post to establish the position of the photographer.
3. For restoration, fuel reduction, and BMP projects, photograph the photo-points and carry copies of those photographs on subsequent field visits.

### **Determining the Compass Bearing:**

1. Select and record the permanent magnetic bearing of the photo center view. You can also record the true compass bearing (corrected for declination) but do not substitute this for the magnetic bearing. Include a prominent landmark in a set position within the view. If possible, have an assistant stand at a fixed distance from both the photographer and the center of the view, holding a stadia rod if available, within the view of the camera; preferably position the stadia rod on one established, consistent side of the view for each photo (right or left side).
2. Alternatively, use the procedure described in *Monitoring California's Annual Rangeland Vegetation* (UC/DANR Leaflet 21486, Dec. 1990). This procedure involves placing a permanently marked steel fence post to establish the position of the focal point (photo center).
3. When performing ambient or event photo monitoring, and when a compass is not available, then refer to a map and record the approximate bearing as north, south, east or west.

**Suggestions for Photo Points by Type of Project:****Ambient or Event Monitoring, Including Photography Associated with Narrative Visual Assessments:**

1. When first beginning an ambient monitoring program take representative long and/or medium view photos of stream reaches and segments of shoreline being monitored. Show the positions of these photos on a map, preferably on the stream/shore walk form. Subjects to be photographed include a representative view of the stream or shore condition at the beginning and ending positions of the segment being monitored, storm drain outfalls, confluence of tributaries, structures (e.g., bridges, dams, pipelines, etc.).
2. If possible, take a close view photograph of the substrate (streambed), algae, or submerged aquatic vegetation.
3. Time series: Photographs of these subjects at the same photo points should be repeated annually during the same season or month if possible.
4. Event monitoring refers to any unusual or sporadic conditions encountered during a stream or shore walk, such as trash dumps, turbidity events, oil spills, etc. Photograph and record information on your photo-log and on your Stream and Shore Walk Visual Assessment form. Report pollution events to the Regional Board. Report trash dumps to local authorities.

**All Restoration and Fuel Reduction Projects – Time Series:**

Take photos immediately before and after construction, planting, or vegetation removal. Long term monitoring should allow for at least annual photography for a minimum of three years after the project, and thereafter at 5 years and ten years.

**Meadow Restoration:**

1. Aerial view (satellite or airplane photography) if available.
2. In the absence of an aerial view, a landscape, long view showing an overlapping sequence of photos illustrating a long reach of stream and meadow (satellite photos, or hill close by, fly-over, etc.)
3. Long view up or down the longitudinal dimension of the creek showing riparian vegetation growth bounded on each side by grasses, sedges, or whatever that is lower in height
4. Long view of conversion of sage and other upland species back to meadow vegetation

5. Long view and medium view of streambed changes (straightened back to meandering, sediment back to gravel, etc.)
6. Medium and close views of structures, plantings, etc. intended to induce these changes

**Stream Restoration/stabilization:**

1. Aerial view (satellite or airplane photography) if available.
2. In the absence of an aerial view, a landscape, long-view showing all or representative sections of the project (bluff, bridge, etc.)
3. Long view up or down the stream (from stream level) showing changes in the stream bank, vegetation, etc.
4. Long view and medium view of streambed changes (thalweg, gravel, meanders, etc.)
5. Medium and close views of structures, plantings, etc. intended to induce these changes.
6. Optional: Use a tape set perpendicular across the stream channel at fixed points and include this tape in your photos described in 3 and 4 above. For specific procedures refer to Harrelson, Cheryl C., C.L. Rawlins, and John P. Potyondy, *Stream Channel Reference Sites: An Illustrated Guide to Field Techniques*, United States Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, General Technical Report RM-245.

**Vegetation Management for Fire Prevention ("fuel reduction"):**

1. Aerial view (satellite or airplane photography) if available.
2. In the absence of an aerial view, a landscape, long view showing all or representative sections of the project (bluff, bridge, etc.)
3. Long view (wide angle if possible) showing the project area or areas. Preferably these long views should be from an elevated vantage point.
4. Medium view photos showing examples of vegetation changes, and plantings if included in the project. It is recommended that a person (preferably holding a stadia rod) be included in the view for scale

5. To the extent possible include medium and long view photos that include adjacent stream channels.

**Stream Sediment Load or Erosion Monitoring:**

1. Long views from bridge or other elevated position.
2. Medium views of bars and banks, with a person (preferably holding a stadia rod) in view for scale.
3. Close views of streambed with ruler or other common object in the view for scale.
4. Time series: Photograph during the dry season (low flow) once per year or after a significant flood event when streambed is visible. The flood events may be episodic in the south and seasonal in the north.
5. Optional: Use a tape set perpendicular across the stream channel at fixed points and include this tape in your photos described in 1 and 2 above. For specific procedures refer to Harrelson, Cheryl C., C.L. Rawlins, and John P. Potyondy, *Stream Channel Reference Sites: An Illustrated Guide to Field Techniques*, United States Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, General Technical Report RM-245.



PHOTO SIGN FORM: Print this form on yellow paper. Complete the following information for each photograph. Include in the photographic view so that it will be legible in the finished photo.

Location:

Subject Description:

Date:

Time:

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Benjamin Guerrero  
 City of Chula Vista  
 276 Fourth Ave  
 CHULA VISTA CA 91910

2. Article Number  
 (Transfer from service label)

7009 1410 0002 2347 5012

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee  
**X**

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type  
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 Registered  Return Receipt for Merchandise  
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4. Restricted Delivery? (Extra Fee)  Yes

PS Form 3811, February 2004

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 or PO Box No. 276 Fourth AVE  
 City, State, ZIP+4  
 CHULA VISTA CA 91910

PS Form 3800, August 2006

See Reverse for Instructions